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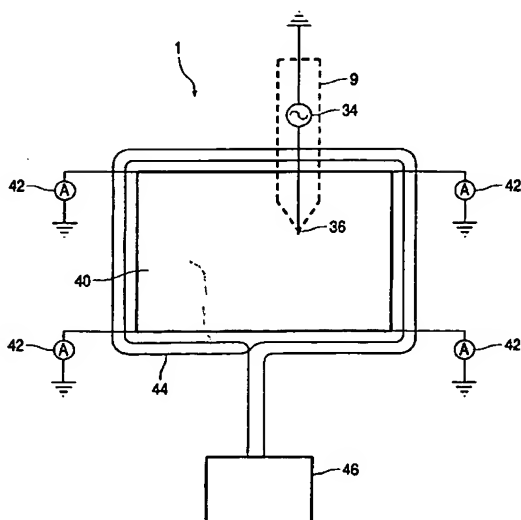
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(54) Title: INPUT SYSTEM



(57) Abstract: A user input system (1), comprising a coil (44) for generating an alternating magnetic field, a cordless pen (9), and a capacitive current measuring arrangement or an electric field sensing arrangement. The cordless pen (9) comprises a resonant circuit (34), a conductive housing (28) and a conducting tip (36). The alternating magnetic field induces an alternating voltage in the resonant circuit (34), which is coupled to the conducting tip (36). The capacitive current measuring arrangement comprises a resistive sheet (40) and current measuring means (42) arranged to measure a capacitive current flowing from the conducting tip (36) to the resistive sheet (40). The electric field sensing arrangement comprises an electric field sensing reception electrode (47) and current sensing circuitry (48) for determining a current excited in the electric field sensing reception electrode (47) by an electric field generated by the conducting tip (36). In each case the currents are sensed at plural locations and the differing magnitudes compared to determine a position of the conducting tip (36) relative to the plural locations. The system may also be adapted to sense a user's finger (8). The user input system (1) may be incorporated in a display device, for example an active matrix liquid crystal display device (4).

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## INTERNATIONAL SEARCH REPORT

 International Application No. **10/516847**  
 IB 03/02584

 A. CLASSIFICATION OF SUBJECT MATTER  
 IPC 7 G06F3/033

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According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

 Minimum documentation searched (classification system followed by classification symbols)  
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/33244 A (BRACE STEVEN ROLAND ; CAUWOOD PETER DAVID (GB); COLLINS IAN PETER (GB)) 8 June 2000 (2000-06-08)	1,4,9, 20,21, 24,25, 33,35
Y	page 11, line 33 - page 15, line 25; figures 3,7a	3,10,11, 13, 15-17, 26,29, 31,34
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- \*O\* document referring to an oral disclosure, use, exhibition or other means
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 365 461 A (STEIN ROBERT A ET AL) 15 November 1994 (1994-11-15) cited in the application  figures 1,2a,2b,5c column 1, line 36 - line 38 column 3, line 41 - column 5, line 1 -----	3,10,11, 13, 15-17, 26,29, 31,34
X	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 01, 29 January 1999 (1999-01-29) & JP 10 268255 A (TOSHIBA CORP), 9 October 1998 (1998-10-09) abstract -----	1,4,9, 24,25, 33,35
X	EP 0 587 200 A (WACOM CO LTD) 16 March 1994 (1994-03-16) column 2, line 51 - column 6, line 55; figures 1,3,4 -----	1,2,4,9, 10,33,35

## INTERNATIONAL SEARCH REPORT

International Application No

/IB 03/02584

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0033244	A	08-06-2000	AT 250784 T	15-10-2003
			AU 769964 B2	12-02-2004
			AU 1397700 A	19-06-2000
			CA 2352363 A1	08-06-2000
			DE 69911641 D1	30-10-2003
			EP 1135745 A2	26-09-2001
			WO 0033244 A2	08-06-2000
			HK 1040795 A1	24-12-2003
			JP 2002531902 T	24-09-2002
			US 2002179339 A1	05-12-2002
			US 2001001430 A1	24-05-2001
US 5365461	A	15-11-1994	NONE	
JP 10268255	A	09-10-1998	NONE	
EP 0587200	A	16-03-1994	JP 2053805 B	19-11-1990
			JP 63070326 A	30-03-1988
			DE 3750110 D1	28-07-1994
			DE 3750110 T2	08-12-1994
			DE 259894 T1	05-09-1991
			EP 0259894 A2	16-03-1988
			EP 0587200 A1	16-03-1994
			EP 0587201 A1	16-03-1994
			US 4878553 A	07-11-1989
			US 5028745 A	02-07-1991